

딥러닝 기초

-04-

분류 문제

키-몸무게 회귀 분석

키-몸무게 회귀 분석

```
import tensorflow as tf
```

```
# 모델링
```

```
model = tf.keras.models.Sequential([
```

```
    tf.keras.layers.Input(1),    # 입력층
```

```
    tf.keras.layers.Dense(1)    # 출력층
```

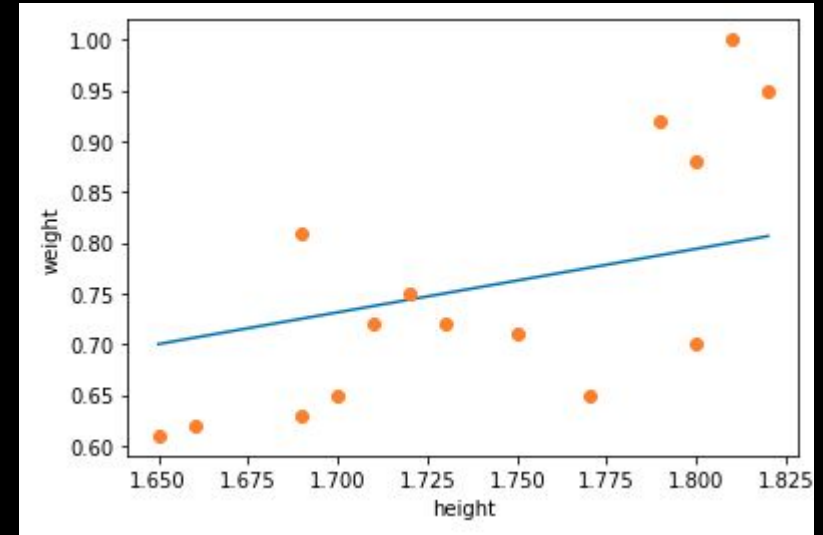
```
])
```

```
# 모델 학습 방법
```

```
model.compile(optimizer=tf.keras.optimizers.SGD(learning_rate=0.1), loss='mse')
```

```
# 모델 학습
```


```
model.fit(height, weight, epochs = 10)
```



붓꽃 분류

Iris Dataset (붓꽃 분류)

<https://archive.ics.uci.edu/ml/datasets/iris>




UCI
Machine Learning Repository
Center for Machine Learning and Intelligent Systems

Iris Data Set

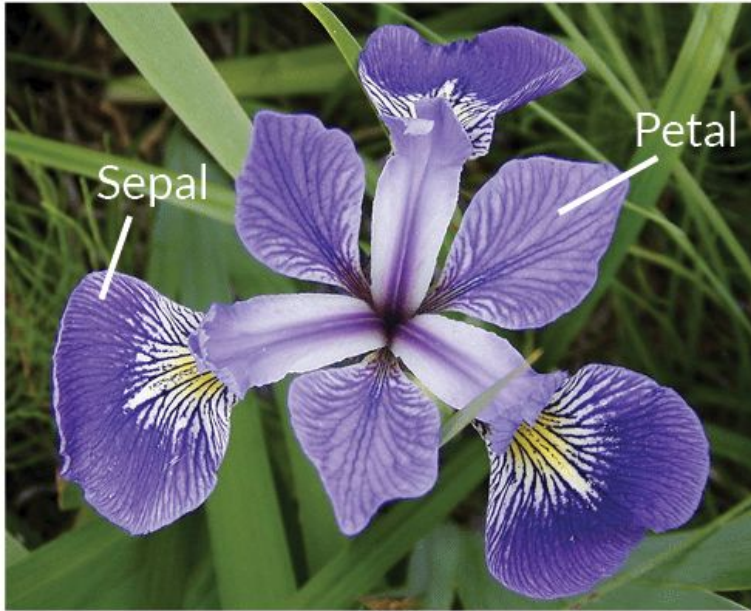
Download: [Data Folder](#), [Data Set Description](#)

Abstract: Famous database; from Fisher, 1936



Data Set Characteristics:	Multivariate	Number of Instances:	150	Area:	Life
Attribute Characteristics:	Real	Number of Attributes:	4	Date Donated	1988-07-01
Associated Tasks:	Classification	Missing Values?	No	Number of Web Hits:	4550840

Iris Dataset (붓꽃 분류)



Iris Versicolor



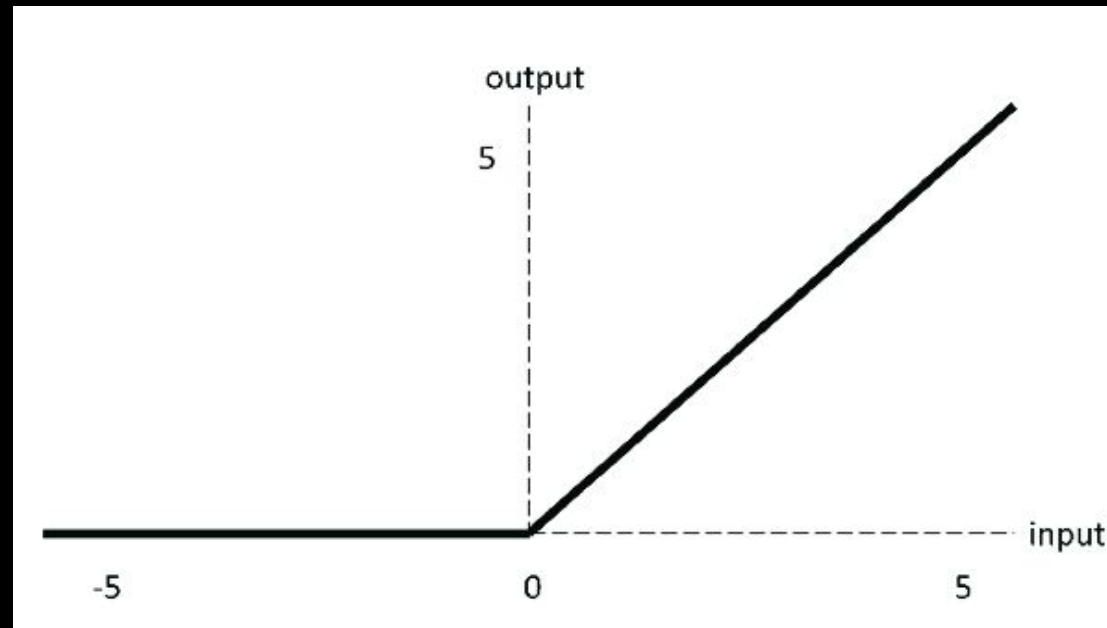
Iris Setosa



Iris Virginica

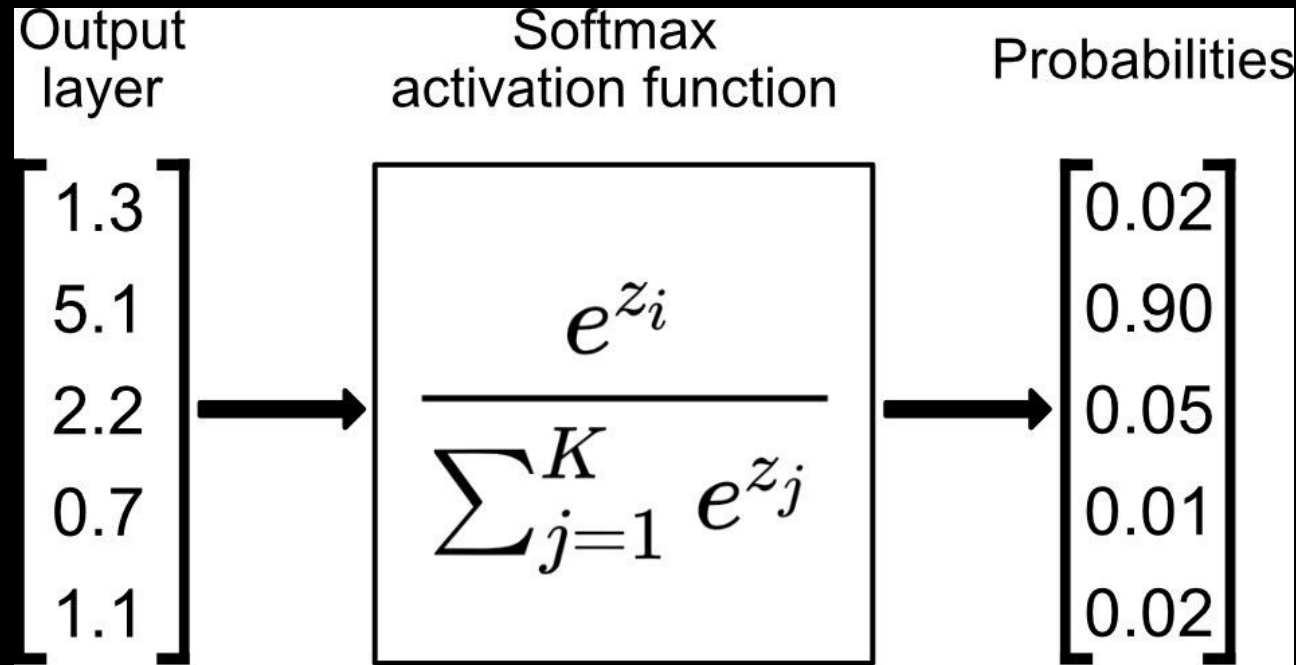
Activation Function : Relu (Rectified Linear Unit)

linear function that will **output the input directly if it is positive, otherwise, it will output zero**



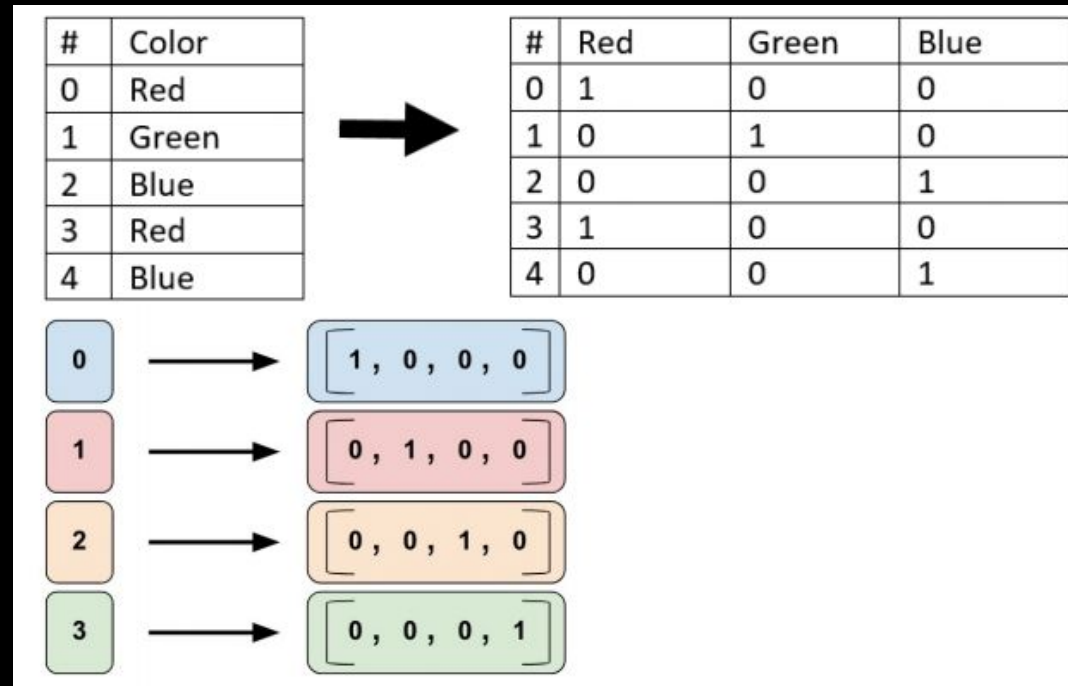
Activation Function : Softmax

Used as the activation function in the **output layer for multi-class classification**



One Hot Encoding

Produces **a vector with length equal to the number of categories in the data set.** If a data point belongs to the i th category then components of this vector are assigned the value 0 except for the i th component, which is assigned a value of 1.



Q&A